

NASA's New Millennium Program

Validation of Advanced Technologies in Space

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Abstract. The purpose of the NASA New Millennium Program (NMP) is to develop breakthrough technologies that require space flight validation to retire risk of first use before the technologies can significantly benefit future space science and Earth science missions. Both the Space Science and Earth Science Enterprises utilize the NMP as a primary path to flight validate key emerging technologies to enable exciting 21st century science missions.

The NMP projects may also return valuable science data to the extent possible within cost and project constraints. The NMP selects technology providers through open competition, thereby maximizing participation from industry, universities, and other government agencies. NMP project requirements are capability-driven with the objective of validating performance that is scalable to its future intended uses.

NMP projects can be either integrated system validation projects or subsystem validation experiment projects. Subsystem projects are designed to validate advanced technology subsystems that can be tested as standalone experiments that gain access to space by piggyback accommodations on various space platforms. NMP uses piggyback accommodations and secondary payload accommodations as a means to reduce the access-to-space cost in order to maximize the investment in the advanced technology content of the projects.

This paper will describe the approach to formulating and implementing NMP projects and provide an overview of the current NMP projects in development and operations, as well as the completed projects.

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